UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/561,370	06/02/2006	Paul Hansen	7744P002	9736

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EXAMINER
WONG, LUT

ART UNIT	PAPER NUMBER
2129	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/561,370	HANSEN ET AL.
	Examiner	Art Unit
	LUT WONG	2129

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 December 2007*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14 and 27* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14, and 27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

This office action is responsive to an RCE AMENDMENT entered Dec 19, 2007

for the patent application 10/561370.

Status of Claims

Claims 1-14, and 27 are pending. Claims 1, 5-14, and 27 have been amended.

Claim Objections

Claim 5 is objected to under 37 CFR 1.75(c), as being of improper

dependent form for failing to further limit the subject matter of a previous claim..

Claim 5 is unclear. See the 112 rejection below. Nonetheless, it seems like

claim 5 merely repeat the phrase of claim 1, which does not include any more steps to

be performed. As such, the Examiner contends that claim 5 fails to further limit claim 1.

Applicant is required to cancel the claim(s), or amend the claim(s) to place the

claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly
claiming the subject matter which the applicant regards as his invention.

Claim 5, and 13 are rejected under 35 U.S.C. 112, second paragraph, as

being indefinite for failing to particularly point out and distinctly claim the subject

matter which applicant regards as the invention.

Claim 5 is prolix with long recitations of claims. It is unclear as to what is trying to

be claimed. See 2173.05(m).

Claim 13 recites the limitation "the reverse strict ordinal ranking". There is

insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title,

Claims 1-14, 40 are rejected under 35 U.S.C 101 because the claimed

invention is directed to non-statutory subject matter,

The claims fail to provide a tangible result, and there must be a practical application, by either
1) transforming (physical thing) or
2) by having the FINAL RESULT (not the steps) achieve or produce

a useful (specific, substantial, AND credible),

concrete (substantially repeatable/non-unpredictable), AND

tangible (real world/non-abstract) result.

A claim that is so broad that it reads on both statutory and non-statutory subject

matter, must be amended.

The courts have also held that a claim may not preempt ideas, laws of nature or

natural phenomena. The concern over preemption was expressed as early as 1852.

See Le Roy v. Tatham, 55 U.S. (14 How.) 156, 175 (1852) ("A principle, in the abstract,

is a fundamental truth; an original cause; a motive; these cannot be patented, as no one

can claim in either of them an exclusive right."); Funk Bros. Seed Co. v. Kalo Inoculant

Co., 333 U.S. 127, 132, 76 USPQ 280, 282 (1948).

Accordingly, one may not patent every "substantial practical application" of an idea, law of nature or natural phenomena because such a patent "in practical effect would be a patent on the [idea, law of nature or natural phenomena] itself." "Here the "process" claim is so abstract and sweeping as to cover both known and unknown uses of the BCD to pure-binary conversion. The end use may (1) vary from the operation of a train to verification of drivers' licenses to researching the law books for precedents and (2) be performed through any existing machinery or future-devised machinery or without any apparatus." Gottschalk v. Benson, 409 U.S. 63, 71-72, 175 USPQ 673, 676 (1972).

Claims 1-14 and 40 are rejected under 35 U.S.C 101 because the claims fail to provide a concrete result. Particularly, claims 1, 14 and 27 recite "receiving from the decision maker an ordinal pairwise ranking of the profiles". The Examiner contends that the decision received from the decision maker lacks concreteness, i.e. if the same profiles are given to the same decision maker, the pairwise ranking can be different. Hence, the result are based on subjective criteria, and not repeatable.

Claims 1-14 and 40 are also rejected under 35 U.S.C 101 because of preemption. Neither the claims nor the spec limit the invention to any practical application. First of all, there is no practical application recited in the claim. Second of all, the spec gives open ended examples of practical applications (See spec p.9), which is unbounded. Third of all, applicant's remark (See pg. 21 of 5/25/2007) also admits unbounded list of applications. As such, the Examiner can reasonable conclude from the above evidence that the claimed invention is preempting the idea.

Response to Arguments

Applicant's arguments filed 12/19/2007 have been fully considered but they are not persuasive.

In re pgs. 15-16, applicant argues that the claimed invention produce a concrete result because "these ordinal pairwise rankings of profiles maybe thought of as the inputs to the claimed invention, and thus from the same inputs, the same outputs will be produced"

In response,

1) If the applicant only claims the processing portions of the claimed invention, then the result may be concrete. However, this is not the case. The claimed invention requires a comparative assessment of profiles which is done by a user, not an algorithm. There is nothing concrete about it, as agreed by the applicant (See pg. 15 of remark).

2) The applicant is reminded that the claim as a whole should produce concrete useful and tangible result, not just a part of it.

In re pgs 16-18, applicant argues that "Applicant's remark do not admit an unbounded list of applications. For example, the system would be applicable in a scenario where points values or rankings of profiles are not required or desired."

In response, the Examiner disagrees.

1) pg. 21 of remark filed 5/25/2007 read as follow "...that are widely and increasing used worldwide, for example,...etc". The Examiner contents that it is an

unbound list of applications by virtual the fact that phrase like "for example", "etc" are

used.

2) Similarly, unbound list of applications are recited in the specification pg. 19.

3) The rational for the rejection is whether applicant is try to preempt the idea (i.e.

cover every substantial applications of the abstract idea), not whether the invention

works for every applications as argued.

4) Applicant can limit to one practical application to overcome the rejection.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-14, and 40 are rejected under 35 U.S.C. 102(b) as being anticipated

by Behnam Malakooti ("Ranking and Screening Multiple Criteria Alternatives with

Partial Information and Use of Ordinal and Cardinal Strength of Preference" IEEE

2000). Examiner Notes (EN) and related citations are denoted in parenthesis.

In general, Malakooti disclosed a decision support method that presents a pair of

questions to a decision maker (DM), ask the questions DM to rank the questions in

ordinal scale, then solve a system of mathematical programming problem to obtain a

result (See at least abstract, section D, section E).

Claims 1, 14 and 40: Malakooti anticipates a decision support method (See e.g.

title) comprising: performing a comparative assessment of profiles (See e.g. abstract)

comprising: generating undominated profile pairs (See e.g. section D. See also pg. 356

where it states "The algorithm determines if one alternative is preferred or *indifferent* to another one");

presenting the undominated profile pairs to a decision maker for ordinal pairwise

ranking (See e.g. section D. See also pg. 356 where it states "In this paper, we propose an

approach that would reduce the number of questions needed to be answered by the DM.") ; receiving

from the decision maker an ordinal pairwise ranking of the profiles (See e.g. section D.

See also pg. 356 where it states "Based on *elicited partial information* about the DM's preferences,

we would partially rank and screen alternatives"); and identifying profile pairs that are implicitly

ordinally pairwise ranked as corollaries of ordinal pairwise rankings performed and

excluding the profile pairs from subsequent presentation to the decision maker (See e.g.

section D. See also pg. 356 where it states "Based on elicited partial information about the DM's

preferences, we would partially rank and screen alternatives. We can further divide the set of alternatives

into two subsets; utility efficient (or screened set), and utility inefficient. We show that the set of utility

inefficient alternatives can be eliminated because they are inferior to some of the utility efficient

alternatives"); the decision support method further comprising: solving a system of

equalities/inequalities that represents the ordinal pairwise rankings of profile pairs to

obtain at least one output (See e.g. section D. See also e.g. abstract where it states

"Unlike, other screening or ranking methods that require solving one linear (or nonlinear) programming

problem for each pair of alternatives, the proposed algorithm obtains the same information very efficiently

while by *solving one mathematical programming problem many alternatives can be ranked and*

screened.").

Claim 2: note that the output comprises a point value for each category on each criterion (See e.g. abstract that each alternatives have scores).

Claim 3: note that the output comprises a ranking of all possible profiles (See e.g. Introduction where it states "Several methods are presented to capture and represent the DM's preferences and then partially or *completely rank alternatives*").

Claim 4: note that the output comprises a ranking of a subset of all possible profiles (See e.g. Introduction where it states "Several methods are presented to capture and represent the DM's preferences and then *partially* or completely rank alternatives").

Claim 5: See the claim objection and 112 2nd rejections above. See also rejection of claim 1 above.

Claim 6: note that the step of generating comprise generating undominated profile pairs with z criteria for each profile, wherein z is a number greater than or equal to two and less than or equal to the number of possible criteria (See e.g. section E and table IV especially where it states "TEST PROBLEMS WITH 100 ALTERNATIVES (n) FOR *2, 3, 4, 5, AND 6 CRITERIA (m)*").

Claim 7: note that the ordinal ranking of profile pairs is repeated for at least one other value of z, and wherein for any other value of z, the step of generating undominated profile pairs is followed by a step of excluding profile pairs that are pairwise ranked as corollaries of the ordinal pairwise rankings performed for any previous value of z (See e.g. section E and table IV especially where it states "TEST PROBLEMS WITH 100 ALTERNATIVES (n) FOR *2, 3, 4, 5, AND 6 CRITERIA (m)*").

Claim 8: note that the step of generating undominated profile pairs with z criteria

for each profile comprises: taking all combinations of all of the criteria, z criteria at-a-

time; and for each combination of the criteria, pairing it with a replica of itself to form a

pair of combinations of the criteria; and for each pair of the combinations of the criteria,

associating the criteria with all combinations of the pre-defined categories for the criteria

in the pair to form all unique undominated profile pairs with z criteria possible from each

pair of the combinations of the criteria (See e.g. Table IV and section E).

Claim 9: See e.g. section E for profile pair generation. See also e.g. section II A

for n-tuple vector.

Claim 10: note that profile pairs that are theoretically impossible are excluded

(See e.g. pg. 356 where it states "We can further divide the set of alternatives into two subsets;

utility efficient (or screened set), and utility inefficient. We show that the set of utility *inefficient alternatives*

can be eliminated because they are inferior to some of the utility efficient alternatives").

Claims 11-13. See e.g. section E on eliminating implied pairs. See also e.g.

section III B regarding empty list handling.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Lut Wong whose telephone number is (571) 270-1123.

The examiner can normally be reached on M-F 7:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Vincent David can be reached on (571) 272-3080. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

/Lut Wong/
Patent Examiner, AU 2129

/David R Vincent/
Supervisory Patent Examiner, Art Unit 2129